

R E M A R K S

Reconsideration of this application, as amended, is respectfully requested.

THE CLAIMS

Claim 1 has been amended to delete the recitation that the sealed container keeps an atmosphere on a periphery of the micro reactor at a pressure of not more than 1 Pa while the reformer is operated, and to instead recite that the sealed container keeps an atmosphere on a periphery of the micro reactor at a pressure lower than external pressure, as recited in original claim 1.

In addition, claim 1 has been amended to recite adsorption means for adsorbing a medium which is present inside the container and to recite that the adsorption means is located apart from the inlet pipe, the outlet pipe and the micro reactor, as supported by the disclosure in Fig. 9 and the disclosure in the specification at, for example, page 44, line 27 to page 45, line 23.

Still further, claims 24-27 have been amended to depend from claim 1, instead of from (now canceled) claim 23.

No new matter has been added, and it is respectfully requested that the amendments to the claims be approved and entered.

THE PRIOR ART REJECTION

Claim 1 was rejected under 35 USC 102 as being anticipated by US 2002/0081471 ("Keegan et al"); claims 1, 2, 4-9, 11, 12, 23 and 25 were rejected under "35 USC 102(e)/35 USC 103" as being "anticipated" by USP 6,562,496 ("Faville et al"); claim 24 was rejected under 35 USC 103 as being obvious in view of the combination of Faville et al and US 2003/0015093 ("Wegeng et al"); and claims 10, 26 and 27 were rejected under 35 USC 103 as being obvious over Faville et al and US 2002/0110712 ("Struthers et al"). These rejections, however, are respectfully traversed with respect to the claims as amended hereinabove.

First, since the Examiner has not rejected claim 2 or claim 23 as being anticipated by or obvious in view of Keegan et al, it appears that the Examiner recognizes that Keegan et al does not disclose or render obvious adsorption means for adsorbing a medium which is present inside the container, as now recited in amended independent claim 1. It is respectfully requested, therefore, that the rejection in view of Keegan et al be withdrawn.

It is respectfully submitted, moreover, that Faville et al, considered singly or in combination with Wegeng et al and/or Struthers et al, does not disclose, teach or suggest the structure of the reformer of the present invention as recited in amended independent claim 1. In particular, it is respectfully

submitted that Faville et al does not, in fact, disclose, teach or suggest adsorption means as recited in claim 1. And it is respectfully submitted that even if the Examiner's interpretation of the structure of Faville et al were accurate with respect to "adsorption means," the structure recited in amended independent claim 1 still would not be achieved or rendered obvious.

In more detail, on page 2 of the Office Action, the Examiner asserts that the insulation plenum chamber 104 and the active porous insulation layer 105 of Faville et al are an "adsorption means for adsorbing a medium which is present inside the container."

It is respectfully submitted, however, that the disclosure of Faville et al provides no support for the Examiner's assertion that the insulation plenum chamber 104 and the active porous insulation layer 105 adsorb the medium inside the hot box chamber 106 (which the Examiner asserts corresponds to the "sealed container" recited in claim 1). Indeed, Faville et al does not mention that any medium is adsorbed by the insulation plenum chamber 104 and the active porous insulation layer 105, and Faville et al does not mention any adsorbing function of the insulation plenum chamber 104 and the active porous insulation layer 105.

Moreover, it is respectfully pointed out that Faville et al describes element 105 as an "active porous insulation layer" and

as a "porous insulation (or active insulation) layer" (column 9, line 30), and Faville et al describes that the insulation layer 105 is disposed between the insulation plenum 104 and the hot box 106 as "the second feature of the thermal management system" (column 9, line 29, emphasis added). That is, it is respectfully submitted that element 105 of Faville et al is described by Faville et al in connection with thermal management, and it is respectfully submitted therefore that elements 104 and 105 of Faville et al function as "active" thermal management/insulation elements, not as some sort of adsorption means.

Accordingly, it is respectfully submitted that Faville et al clearly does not disclose, teach or suggest "adsorption means for adsorbing a medium which is present inside the container" as recited in amended independent claim 1.

It is respectfully submitted, moreover, that even if the insulation plenum chamber 104 and the active porous insulation layer 105 were considered to be "adsorption means," the structure of the reformer recited in amended independent claim 1 still would not be achieved or rendered obvious.

That is, according to amended independent claim 1, the adsorption means is located apart from the inlet pipe, the outlet pipe and the micro reactor.

When a micro reactor accommodated within an insulating container operates and the temperature rises, the heat of the

micro reactor is conducted to the inlet pipe and outlet pipe connected to the micro reactor, causing the temperature of the inlet pipe and outlet pipe to rise. With the structure of the present invention as recited in amended independent claim 1, since adsorption means is arranged apart from the micro reactor, which generates heat during operation, and the inlet pipe and outlet pipe, the temperatures of which increase as heat is conducted by the micro reactor having increased temperature, it is possible to prevent a temperature rise in the adsorption means due to heat conduction. It is thereby possible to prevent the molecules adsorbed by the adsorption means from being released into the container, which is caused by the temperature rise in the adsorption means. Thus, the structure of the present invention provides specific advantages which make it possible to stabilize the environment of the container in which the micro reactor is accommodated.

By contrast, according to Faville et al, the active porous insulation layer 105 surrounds the entire periphery of a hot box chamber 106, and the insulation plenum chamber 104 surrounds the entire periphery of active porous insulation layer 105. See Fig. 1 of Faville et al. Moreover, according to Faville et al, the various inlets and outlets (for example, fuel supply inlets 141 and 143, air supply inlets 151 and 153, the reaction byproducts and air discharged at 107), are connected to the

interior of the embedded hot box chamber 106 via the active porous insulation layer 105 and the insulation plenum chamber 104, and the insulation plenum chamber 104 and the active porous insulation layer 105 are not apart from these elements.

Accordingly, it is respectfully submitted that even if the insulation plenum chamber 104 and the active porous insulation layer 105 were considered to be adsorption means, the structure recited in amended independent claim 1 whereby the adsorption means is located apart from the inlet pipe, the outlet pipe and the micro reactor would still not be disclosed, taught or suggested by Faville et al.

In view of the foregoing, it is respectfully submitted that amended independent claim 1 clearly patentably distinguishes over Faville et al, under 35 USC 102 as well as under 35 USC 103.

It is respectfully submitted, moreover, that Wegeng et al and Struthers et al, which were cited with respect to claims 10, 24, 26 and 27, also do not disclose the structure of the adsorption means as recited in amended independent claim 1.

Accordingly, it is respectfully submitted that even if Faville et al were combinable with Wegeng et al and Struthers et al in the manner suggested by the Examiner, the structure of the present invention as recited in amended independent claim 1 still would not be achieved or rendered obvious.

In view of the foregoing, it is respectfully submitted that amended independent claim 1 and claims 4-6, 8-11 and 24-27 respectively depending therefrom all clearly patentably distinguish over Keegan et al and Faville et al, as well as all of the other cited references, taken singly or in any combination, under 35 USC 102 as well as under 35 USC 103.

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Entry of this Amendment, allowance of the claims and the passing of this application to issue are respectfully solicited.

If the Examiner has any comments, questions, objections or recommendations, the Examiner is invited to telephone the undersigned at the telephone number given below for prompt action.

Respectfully submitted,

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